

REMARKS

Claims 1 - 7 are pending in the present application. By this Amendment, claims 1 and 4 have been amended and new claims 8 and 9 have been added. No new matter has been added. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated November 24, 2003.

Drawings:

The drawings stand objected to under 37 CFR 1.83(a) on page 2 of the Action due to the Examiner's assertion that "the limitation that said correction reference signal generation means performs different types of correction reference signal generation processing in generating the reference signal, corresponding to the plurality of the drive modes as claimed in the claim 1," and "the limitation of an n-addition drive mode of claims 2, and 5-7" are not shown in figures 1 or 2 of the present application.

This objection is respectfully traversed.

It is respectfully submitted with regard to claims 1, 2, 5 and 6 that a normal drive and an optional n-addition drive are performed in readout of image pickup signals by suitably changing the pattern of drive clock of the CCD driver 6, shown in Fig. 1, which correspond to the different types of correction reference signal generation performed by the correction reference signal generation section 8 - 1 of Fig. 1.

In addition, it is respectfully submitted that the features of claim 7 concerning the optically shielded pixel region comprising a predetermined number of horizontal pixel rows is clearly illustrated in Fig. 2 by the reference element HOB.

Moreover it is noted that p14, lines 1 to 4 of the present specification calls for “at the time of the movie operation, reading by addition of n pixels is effected throughout the entire scanning region including the effective pixel region and the OB pixels”. On the other hand, p16, lines 12 to 17 of the present specification calls for “at the time of still operation, an interlaced scanning is effected in which: the effective pixel region is read out by addition of n pixels; and the OB region is subjected to switching to be made every other frame between the normal drive and the reading by addition of n pixels. The switching drive between the above described normal drive and n-addition drive is effected by CCD drive as mentioned in p9, lines 19 to 22 of the present specification. Accordingly, withdrawal of this objection is respectfully solicited.

Specification:

On page 2 of the action, the Examiner asserts that the title of the invention is not descriptive. However, the title has been amended in the manner suggested by the Examiner. Accordingly, withdrawal of this objection is respectfully solicited.

As To The Merits:

It is respectfully submitted that support for the amendments to claims 1 and 4 and new claims 8 and 9 is based on the disclosure in: p12, lines 14 to 17; p13, lines 17 to 20; p14, lines 17 to 15; line 13; and p18, line 16 to p19, line 8 of the present specification. Thus, no new matter has been added.

Arguments against the rejections under §102:

Claims 1, 4, 6 and 7 have been rejected under §102 as being anticipated by Inagaki et al. (U.S. Patent No. 6,084,634), and Inagaki et al. ((JP 09-135388).

Each of these rejections is respectfully traversed.

The above cited references each disclose an imaging apparatus having a normal mode of reading all pixels by taking one frame and a view-finder mode for effecting a thinned-out reading to secure frame rate, provided with a capability of canceling FPN (dark current noise) corresponding to each mode. Specifically, as shown in Figure 18, OB detection corresponding to control signal-F/S outputted from the system controller 11 is effected at OB detector 701 and analog signals obtained from D/A conversion of the output therefrom is provided to the level shifter 402. The control signal-F/S as described is the control signal for indicating the discrimination between the view-finder mode and the still photography mode so that the shift amount (black-level correcting amount) at the level shifter 402 is set to a value corresponding to the control signal-F/S. Also as shown in Fig. 15, the OB area is provided only along the row direction.

No mentioning at all, however, is made in the above described cited references with respect to the feature of claims 1, 4, 6, and 7 that a black-level correcting signal is generated by referring to information of the defective pixels in the OB region.

Arguments against the rejections under §103:

Claim 2, 3 and 5 have been rejected under §103 as being unpatentable from Inagaki et al (U.S. Patent No. 6,084,634), and Applicant's admitted prior art.

This rejection is respectfully traversed.

The Applicant's admitted prior art relates to the technique for using data corresponding to one line obtained by added average of the vertical OB pixels of 12 lines as the connection reference signal. It is also related to the n-line addition readout method where high-speed and –sensitivity read out is possible though the resolution is degraded, and to the m/n-line addition readout method where high-speed and –sensitivity readout can be achieved of the case of using a color image pickup device.

Also in the Applicant's admitted prior art, however, no mentioning is made at all with respect to the above described construction that features claims 1 and 4 on which claims 2, 3 and 5 depend.

Claims 1, 4, 6 and 7 have been rejected under §103 as being unpatentable from Inagaki et al. (JP 09-135388) and Carroll et al. (U.S. Patent No. 6,160,578).

This rejection is respectfully traversed.

Carroll et al. discloses a digital camera capable of high-speed taking. The above described high-speed taking is a taking of movie and is not directed to a still image taking. The camera then uses a signal obtained by averaging leading black pixels in each line as the offset information of black level to remove the influence of noise due to the high-speed operation (see column 13, lines 23 to 35).

No disclosure at all, however, is made in Carroll et al. with respect to the construction (a black-level correcting signal is generated by referring to information of the defective pixels in the OB region) that features claim 1, 4, 6 and 7 to the present case.

Claims 2, 3 and 5 have been rejected under §103 as being unpatentable from Inagaki et al. (JP 09-135388), Carroll et al. and the Applicant's admitted prior art.

This rejection is respectfully traversed.

As described above, however, no disclosure is made in the cited references and Applicant's admitted prior art with respect to the construction that features claims 1 and 4 on which claims 2, 3 and 5 depend.

Response under 37 C.F.R. §1.111
Attorney Docket No. 000871
Serial No. 09/614,725

In view of the above, it is firmly believed that all the claims of the present case including amended claims 1, 4 and added new claims 8 and 9 are fully patentable. Applicant requests such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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